TyDI: Terminology Design Interface – User Guide

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1 Introduction

The Terminology Design Interface (TyDI) is a graphical tool for,

- The validation of large sets of candidate terms extracted from texts written in natural language,
- The selection of a subset of terms in a terminology, relevant for a given application
- And the structuring of terminologies.

See the TyDI scenario document for more details on TyDI practical goals.

The application architecture follows the client/server model. The server side is mainly in charge of the data storage (using a relational database), and is described in "TyDI Admin Guide". The client side is a graphical user interface that will be detailed in this document.

If TyDI is not already installed on your platform, please follow the installation procedure described in chapter 5 .

2 General presentation

2.1 Process description

The term validation process is the following: the user browses a list of term candidates and the user assigns a validation status to each one; the status can range from rejected to fully approved. The candidate list is provided by a third party application such as a corpus-based term extractor, like YaTea.

The terminology structuring process is the following: the user assigns synonymy and hyperonymy relationships to couples of terms.

In both cases, TyDI provides many facilities for selecting and displaying terms that share common properties such as morphology so that the validation or structuring actions for given terms can be derived from the observation of other similar terms.

When opened, the windows appear docked at the favourite position within the application main window. Simple drag and drop move them to another site.

There are also two special buttons in the title bar of the top-level windows:

- Alternatively sliding the window makes room for other windows,
- Or pining it down in order to have it always displayed.

Finally you can undock any of the top-level windows if you prefer to work with independent windows (via the context-sensitive menu in the window title bar or by dragging out the title of the window).

2.2 Application general presentation

The Terminology Design Interface client is a graphical user interface, composed of several top-level windows, which can be reorganized at the user will. By default, top-level windows appear docked within the main window workspace (top-level windows have been coloured in the picture below).

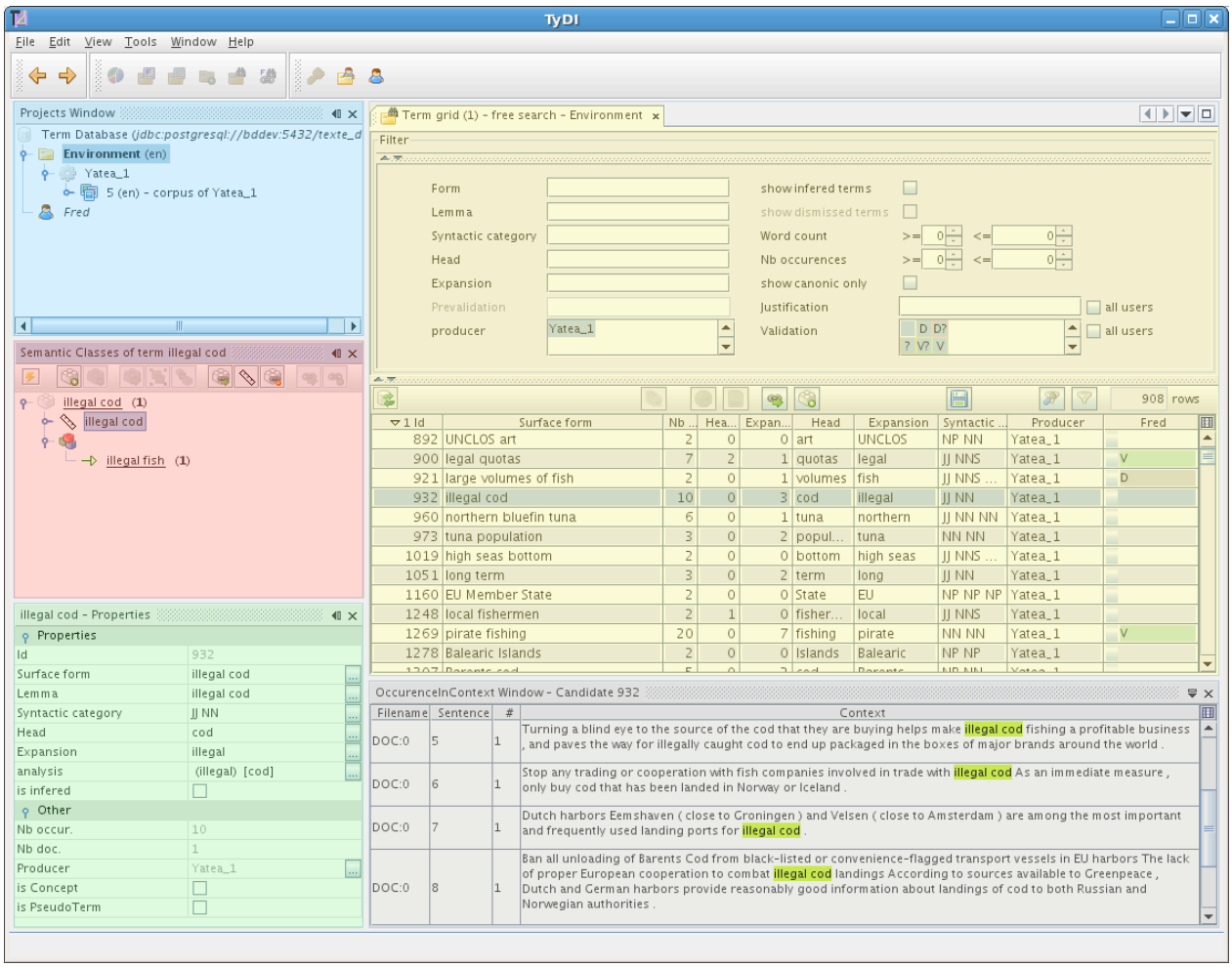

TyDI
File Edit View Tools Window Help
Projects Window
Term Database (jdbc:postgresql:///bddev:5432/texte_d
Environment (en)
Yatea_1
5 (en) - corpus of Yatea_1
Fred
Term grid (1) - free search - Environment
Filter
Form
Lemma
Syntactic category
Head
Expansion
Prevalidation
producer
Yatea_1
show infered terms
show dismissed terms
Word count
Nb occurences
show canonic only
Justification
Validation
all users
all users
Semantic Classes of term illegal cod
illegal cod (1)
illegal cod
illegal fish (1)
illegal cod - Properties
Properties
Id 932
Surface form illegal cod
Lemma illegal cod
Syntactic category JJ NN
Head cod
Expansion illegal
analysis (illegal) [cod]
is infered
Other
Nb occur. 10
Nb doc. 1
Producer Yatea_1
is Concept
is PseudoTerm
908 rows
Id Surface form Nb ... Hea... Expan... Head Expansion Syntactic ... Producer Fred
892 UNCLOS art 2 0 0 art UNCLOS NP NN Yatea_1
900 legal quotas 7 2 1 quotas legal JJ NNS Yatea_1 V
921 large volumes of fish 2 0 1 volumes fish JJ NNS ... Yatea_1 D
932 illegal cod 10 0 3 cod illegal JJ NN Yatea_1
960 northern bluefin tuna 6 0 1 tuna northern JJ NN NN Yatea_1
973 tuna population 3 0 2 popul... tuna NN NN Yatea_1
1019 high seas bottom 2 0 0 bottom high seas JJ NNS ... Yatea_1
1051 long term 3 0 2 term long JJ NN Yatea_1
1160 EU Member State 2 0 0 State EU NP NP NP Yatea_1
1248 local fishermen 2 1 0 fisher... local JJ NNS Yatea_1
1269 pirate fishing 20 0 7 fishing pirate NN NN Yatea_1 V
1278 Balearic Islands 2 0 0 Islands Balearic NP NP Yatea_1
OccurenceInContext Window - Candidate 932
Filename Sentence # Context
DOC:0 5 1 Turning a blind eye to the source of the cod that they are buying helps make illegal cod fishing a profitable business , and paves the way for illegally caught cod to end up packaged in the boxes of major brands around the world .
DOC:0 6 1 Stop any trading or cooperation with fish companies involved in trade with illegal cod As an immediate measure , only buy cod that has been landed in Norway or Iceland .
DOC:0 7 1 Dutch harbors Eemshaven (close to Groningen) and Velsen (close to Amsterdam) are among the most important and frequently used landing ports for illegal cod .
DOC:0 8 1 Ban all unloading of Barents Cod from black-listed or convenience-flagged transport vessels in EU harbors The lack of proper European cooperation to combat illegal cod landings According to sources available to Greenpeace , Dutch and German harbors provide reasonably good information about landings of cod to both Russian and Norwegian authorities .

Illustration 1: TyDI main windows

The most common top-level windows are:

- One project window (in blue in the screen capture), displaying all projects that are visible to the current user in the current database,
- As many term grids (in yellow) as needed, displaying a selection or all candidate terms of a specific project in a tabular form. The validation is performed through this screen,
- One property sheet (in green), a general purpose window displaying detailed information about the currently select item (*e.g.* term, project, corpus, link),
- One context window (in grey), presenting the occurrences of a specific term in its corpus context,
- One term link window (in red), displaying the semantic class and the links where the selected terms appears.

Three toolbars are located just below the menu bar where many action buttons are available. From left to right: Term navigation tool bar, Project toolbar and User toolbar.

Illustration 2: TyDI toolbar.

2.3 Managing windows

Managing the windows inside the application is very flexible, in particular the user can customize the layout of the windows as (s)he likes.

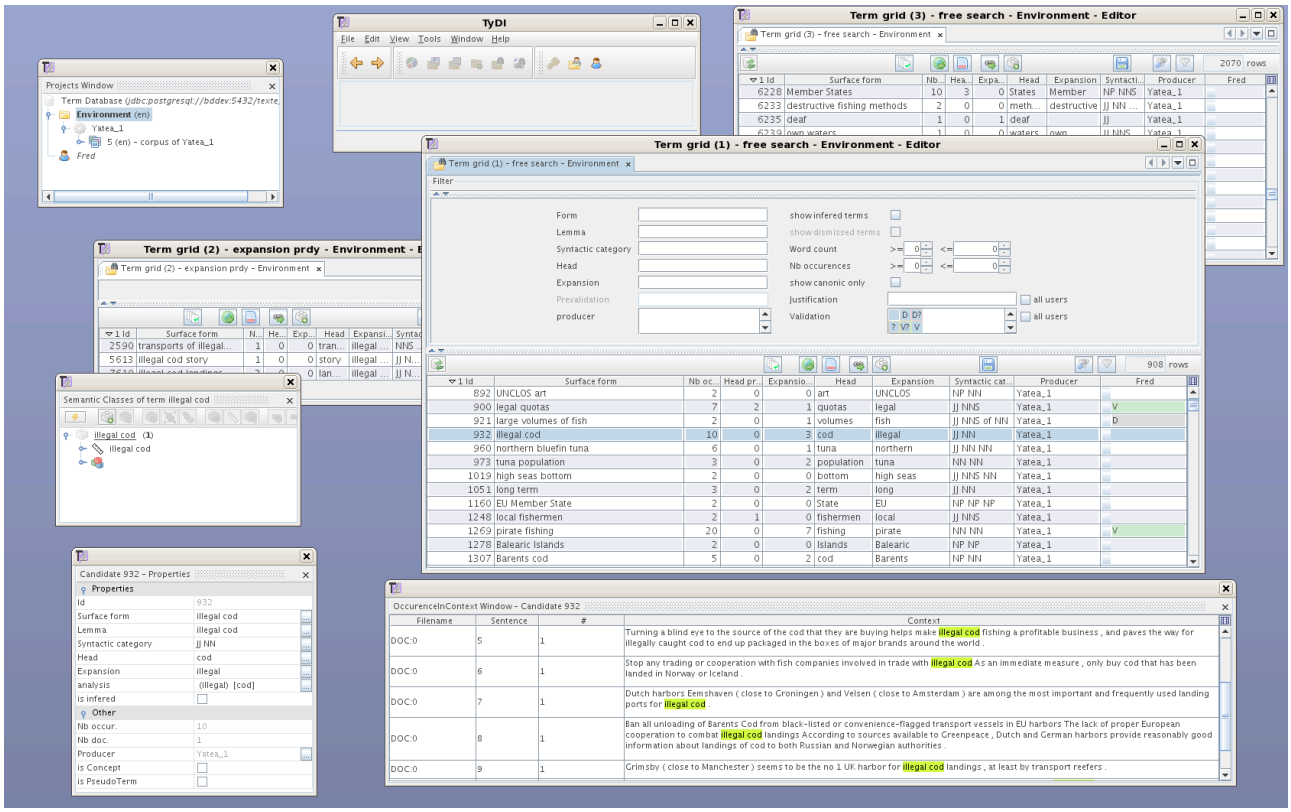

TyDI
Term grid (3) - free search - Environment - Editor
Term grid (1) - free search - Environment - Editor
Term grid (2) - expansion prdy - Environment -
Projects Window
Semantic Classes of term illegal cod
Candidate 932 - Properties
OccurenceInContext Window - Candidate 932

Illustration 3: undocked top-level windows.

3 Basic usage

Since all the terminological data is stored in a database, the user needs to connect to a dedicated server before starting working on terminologies.

Note: A connection dialog appears automatically when the application is launched (be patient, the dialog is displayed once the application is correctly initialised).

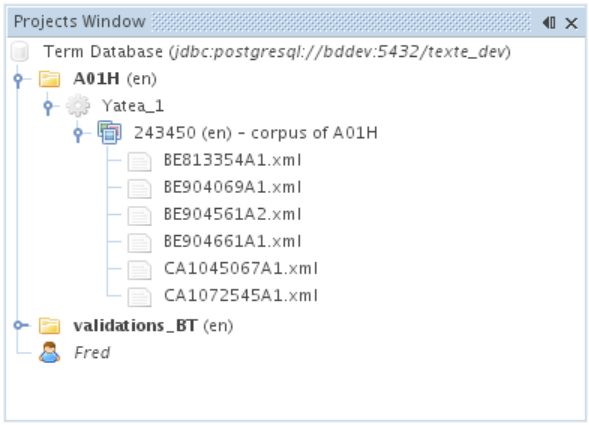


Illustration 4: Project window

The project window is the entry point to work with TyDI. It shows a hierarchical tree of the data organisation.

Of course, when you are not connected to a database yet, the project window is empty.

Selecting a node in the project window enables specific actions:

	Node type	Available actions
	The Term Database node (root of the tree)	- Disconnect, - Create new project
	Project nodes: one per project the current user has been given rights to work with.	- Term free search, - Import result of a new term extraction, - View FastR variation proposals, - View project statistics
	Processing nodes: one per processing performed in the project (*e.g.* YaTeA extraction, tab file import, FastR variant search)	None
	Corpus nodes (corpora can be shared by distinct processing)	- Import FastR variant search results
	Text file nodes: list of individual files contained in a corpus	None
	User node: only one node, for the currently connected user	- Change password, - Change user right

3.1 Connection

The connect dialog allows the user to choose a database and a user profile at the same time. A correct password for the application is required to connect to the database.

At a given time, the application is connected to a single database, but a database can contain several terminology projects that can be opened simultaneously.

Illustration 5: connection dialog

Note: The *Connect* and *Disconnect* commands are located under the *File main menu*; hence the user can disconnect from a database and connect to another without closing the application. These commands can also be found in the context-sensitive menu under the Term database node in the Project window.

3.2 User profiles management

Most of the time, a change in the data is recorded along with the identification of the user who issued it. Thus, it is strongly recommended to create one user profile for each person taking part in the terminology building process.

User profiles are stored in the database, so that one user can potentially work on any terminology project of the database, if the user profile has been explicitly given the rights to view and work on a project by an application administrator.

If your database does not contain any user profile yet, please refer to "TyDI Admin Guide" to learn how to connect as an application administrator.

3.2.1 User profiles creation and modification

Clicking on the button located in the User toolbar opens the user edit window.

This command can also be found in the context-sensitive menu under the Term database node in the Project window).

Note: the user profile management is only granted to Application administrators.

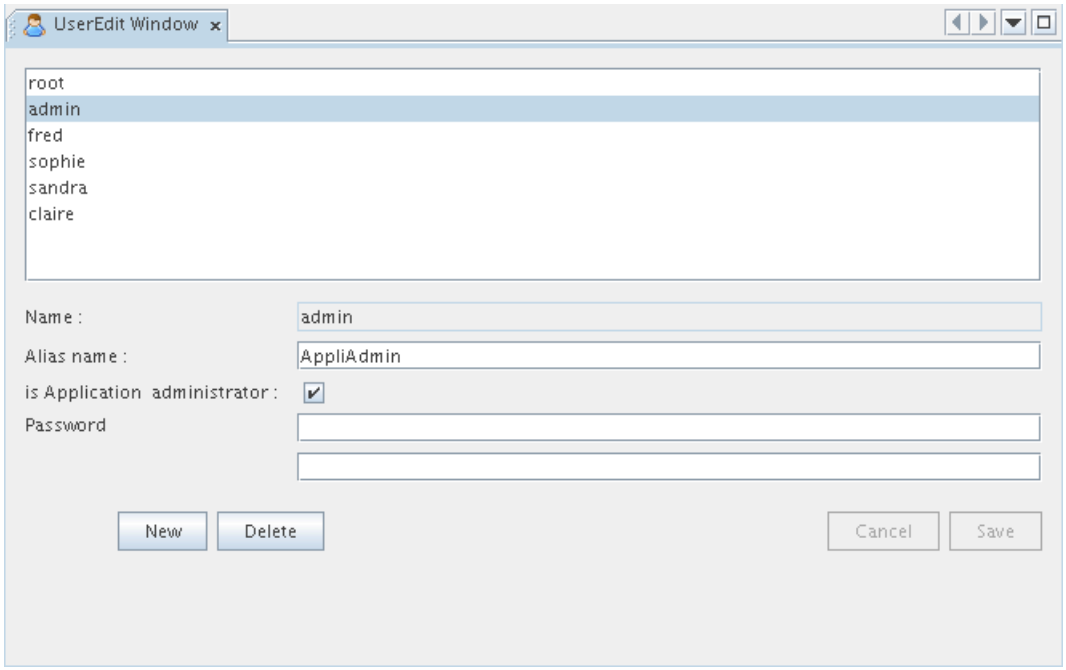


Illustration 6: Users editing window

The *User editing* window displays the list of the user profiles existing in the current database. The list is located at the top of the window.

To edit a profile,

- First select it in the list, and then perform the change in the text field below. You can even reset the password of an existing user, which is useful in case of password loss.
- Confirm changes by clicking on the save button or discard them with the Cancel button).

Clicking on the "New" button creates a new user profile.

Clicking on the "Delete" button deletes the selected user profile.

Warning: Removing user profiles that have been used to create data (*e.g.* term validation, semantic class or term link creation) is forbidden.

Note: user profiles with Application administrator privileges have extended rights. They can:

- Create new user profiles or modify existing ones,
- Grant or revoke the right of users to work on given terminology projects,
- Create new terminology project, or import term extraction result into existing ones.

3.2.2 User authorizations

The *user authorisation* window is opened by clicking on the button located in the User toolbar This command can also be found in the context-sensitive menu under the User node in the Project window.

Note: the user authorisation management is only granted to Application administrators.

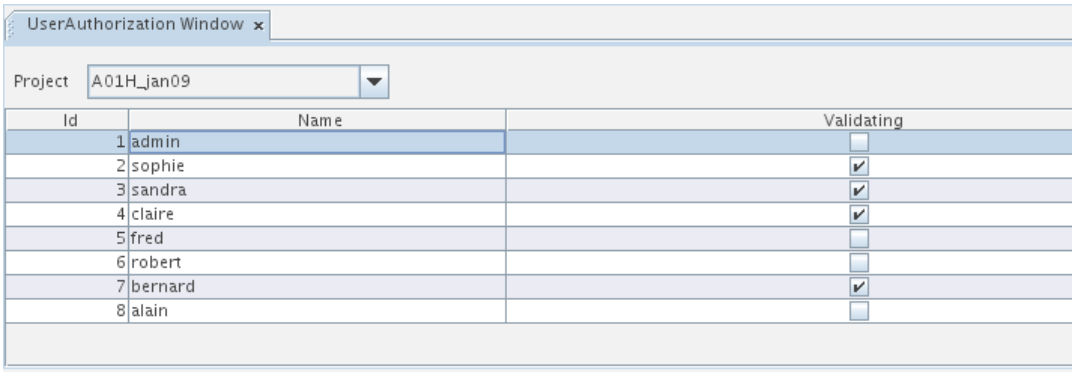


Illustration 7: user authorisations window

The drop-down list box located at the top of the *user authorization* window displays the current terminology projects in the current database. On a selection of a project, the table below is refreshed.

The table displays for each existing user profile an editable check box indicating if the corresponding user is granted the right to work on a project.

A granted user can perform term validation, semantic class and term link creation.

To change the rights of a specific user, just click on the corresponding check box.

3.3 Creating a terminology project

Just after creation, the database is empty. Terminology projects are created by importing terms such as candidate terms output by a term extractor.

The *Create project* button is located in the Project toolbar; it is enabled when the Term Database node is selected in the Project window (This command can also be found in the context-sensitive menu under the Term Database node in the Project window).

3.3.1 Importing data into projects

Important note : This functionality is currently not available when using **Web Service** access.

A wizard will guide you during the import process.

Warning: be aware that the time required to import data depends on the available memory. Importing more than 25,000 terms requires the allocation of more memory than the default setting (see 6.3).

3.3.1.1 Project global properties

The first step of the wizard can be used to set the project global properties: name, description and main language.

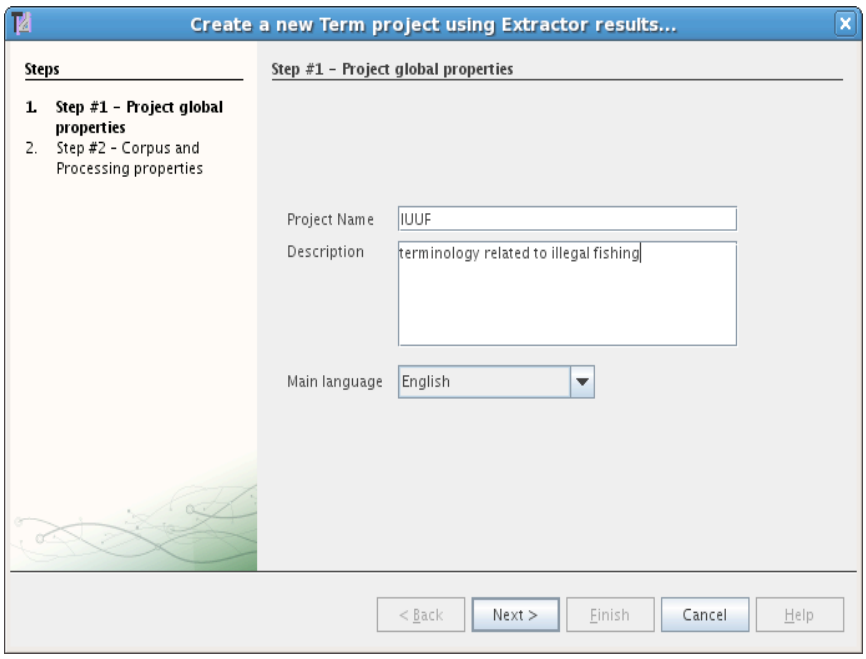


Illustration 8: Project creation wizard - main panel

3.3.1.2 Corpus and processing properties

The second step of the wizard allows to set properties of the corpus if relevant and of the term input format.

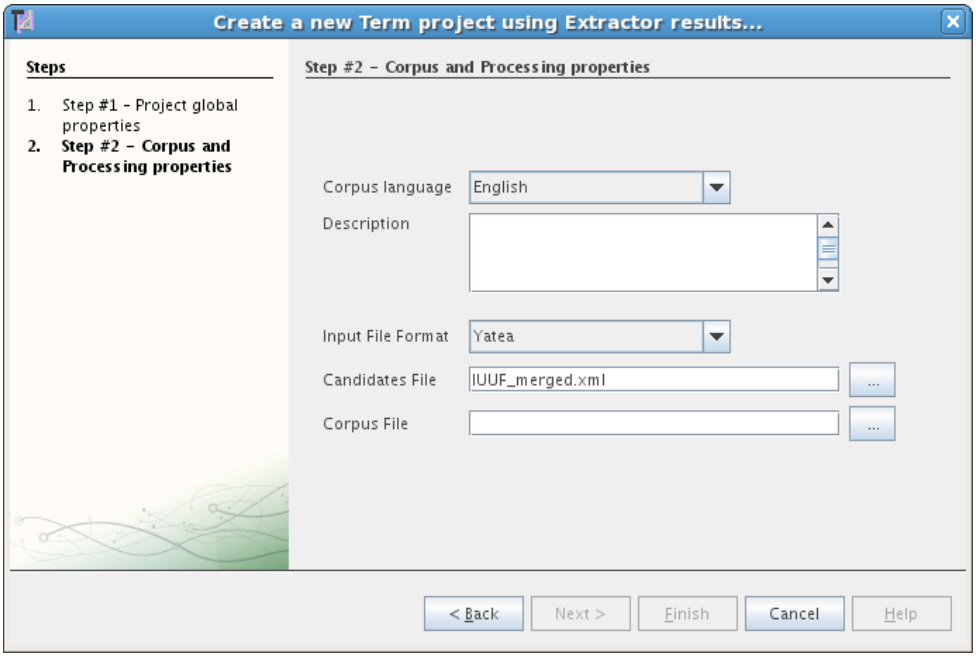


Illustration 9: Project creation wizard - files import panel

Note: you can indicate here that a corpus is in a distinct language than the project main language.

The input format file must be specified: YaTeA XML results or Tab separated values file with TyDI v0.2 (version of June 2009 and above) (see 7.1 for file format). Then, you need to indicate the path to the data files in the provided text fields. You can use the "open file" dialog box to set

these paths (button with the ellipsis mark).

If you import YaTeA data, you can optionally indicate a corpus file. The advantage of importing the corpus file is that TyDI will then be able to display terms in context.

Note 1: the YaTeA term candidate files can be post-processed by the *merging tool fusion_termino_xml.pl* to reduce term redundancy, by gathering flexed forms or close typographic variants under a representative form of the group. The merged terms are then said to be *superseded* by the representative form. Nevertheless, it is still possible to view the superseded terms in TyDI.

Note 2: the YaTeA candidate files can be post-processed by the *filtering tool filtrage_termino_xml.pl* to reduce term profusion by removing superfluous terms using simple regular expression or dictionary based methods. For example we may want to remove already known named entities like species names in a biological terminology. Nevertheless, it is still possible to view the dismissed terms in TyDI.

Note 3: the project creator is automatically granted the right to work on the new project. Hence, grants must be explicitly set to other participating users (see 3.2.2).

3.3.2 Importing multiple extraction results

Important note: This functionality is currently not available when using **Web Service** access.

It is possible to import term extractor results into an already existing project and the corresponding corpus can be in languages distinct from the main project language.

The result importation is performed using the same wizard described before.

3.4 Term candidate selection

The main activity of TyDI user is to navigate through the list of term candidates of the project for assigning validation status or relationships. To avoid scanning the list of candidates sequentially, as this process can be pretty boring and, in addition, really inefficient TyDI provides many facilities to select, sort and navigate through candidate lists.

Click on the button located in the Project toolbar opens the Term grid window (it is enabled when a Project node is selected in the Project window).

It can also be opened by a simple double-click on the Project node (this command can also be found in the context-sensitive menu under the Project node in the Project window)

The Term grid window is used to display all or a selection of term candidates associated to a project. It is composed of two main panels and a toolbar:

- the filter criteria panel (upper part) is used to limit the number of term candidates retrieved from the database by setting some criteria
- the toolbar contains buttons to perform commands on selected candidates,

- the candidate table (lower part) displays the list of candidates corresponding to the criteria set above it.

The validation and the structuring of terms are based on the examination of close terms. The closeness is mainly based on morphology criteria, frequency, linguistic properties, other user opinion and context. The filter criteria panel is then used to filter the term candidate to be displayed in the candidate table so that the command of the toolbar can be performed on the selected candidates.

3.4.1 Filter panel

A typical terminology project can contain several thousands of term candidates, and it is usually not useful to display them all at once (not to mention that it can take some time to retrieve them from the database).

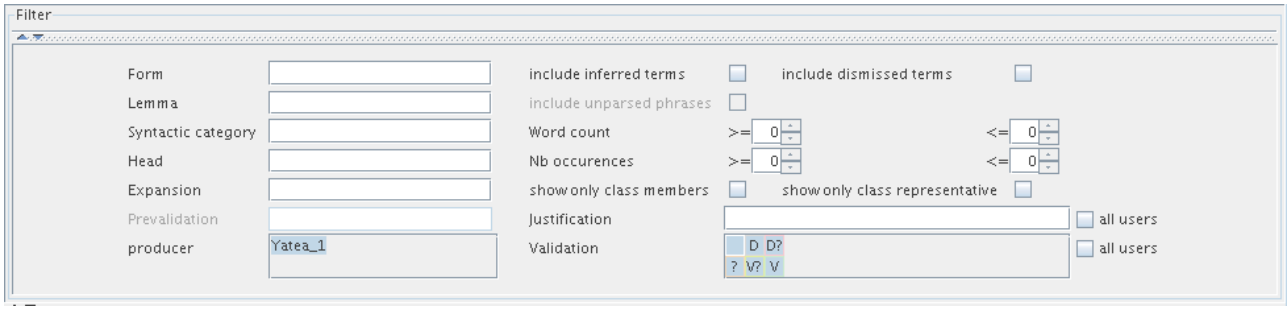


Illustration 10: Filter panel criteria

For selecting a subset of term candidates, the user assigns term feature value to the criteria as figured in the Filter panel.

Note: depending of the data that was imported to create the project, some criteria are not available for candidate selection (greyed field).

You can perform approximate filtering by using special wildcard characters in the text fields:

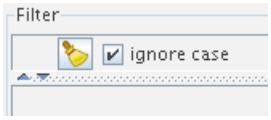
- *: will match any string (of any length strictly more than zero),
- ?: will match any single character.

If several criteria are specified, the term candidates that are retrieved will match the union of those criteria (logical AND operator).

Tip: in order to give more space to the candidate table, it is possible to reduce the panel thanks to splitter widget.

Dragging the splitter bar resizes the panels on both sides of the splitter.

Expand and reduce buttons quickly expand/reduce the panel (triangular buttons at the left side of the splitter).

	There is a reduced panel at the top of the filter panel to indicate if searches should case sensitive or not (case ignored by default). It also contains a button to reset the filter panel.

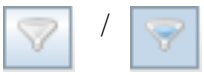
The table below contains a short description of the term features that can be used as filter criteria.

Feature	Description
Form	Surface form of the term candidate, as it is found in the corpus.
Lemma	Lemmatized form of the candidate.
Syntactic category	Part of speech tag (POS tag)
Head	Head form.
Expansion	Expansion form.
Prevalidation	Prevalidation string
is Class member	True if the term belongs to a semantic class.
is Representative	True if the term is the representative term of a semantic class.
Producer	Processing or user who created the term (free selection).
is Inferred	True, if the term is not found in the corpus alone in a maximal noun phrase (MNP), but has been retained for the syntactic analysis of a larger term.
is Dismissed	True, if the term is detected by the extractor, but has been filtered out (optional post-YaTeA processing).
is Superseded	True, if the term is detected by the extractor, but has been regrouped with others under a merged representative (optional post-YaTeA processing).
is Unparsed Phrase	True, if the term extractor has not been able to parse the phrase.
Word count	Number of words in the form.
Nb of occurrences	Number of occurrences of the form with a given syntactic analysis within the corpus.
Class member / only representative	Term members of any semantic class (or only the representative amongst those class members).
Justification	Validation comment
Validation	Validation status(es) (free selection)

3.4.2 Term grid toolbar

Illustration 11: term grid toolbar

This toolbar contains the following action buttons:

	Apply button: Execute the query to the database with the current values of the criteria. Short-cut: Enter key
 Maskable incremental search bar: type a text in the text field, the first term containing this text will be selected in the grid. You can browse forward and backward amongst the matching terms using the arrow buttons Ctrl-F keyboard shortcut opens the search bar. Clicking on the cross on right side closes it.	
	Multi-validation button: open a specific dialog to set the validation status and to set an optional comment for all the currently selected terms in a single action.
	External search button: launch a search of the selected candidate surface form within your favourite web browser. The available search engines can be parameterized thanks to a dedicated window (see 6.2)
	Context button: open/refresh the context window displaying the occurrences of the selected candidate within the corpus.
	Term link button: open/refresh the Semantic class and Term link window to display the classes containing the selected terms.
	Create class button: create a new semantic class containing all selected terms.
	Create a new term
	Terminology export button: allows performing two distinct types of export. 1. Total "image" export: export to a text file (tab separated value) the term displayed in the grid, in the order they are displayed, with all the columns visible in the grid. 2. Term and POS tag list in TreeTagger format of the currently displayed terms that is used as input to FastR processing.
	Local filter button: allows to define a local filter by specifying a regular expression to be applied to one of the visible column (see 4.3).
	Apply local filter toggle button: allows to quickly enable or disable the local filter (if defined).
	Rows count field: shows the total number of terms candidate currently displayed (excluding those filtered out by the local filter)

3.4.3 Candidate table

The list of candidates corresponding to the criteria set in the filter panel is displayed in the term candidate grid.

This table is the central widget used to navigate through term candidates.

Id	Surface form	Nb ...	Head...	Expans...	Head	Expansion	Syntactic c...	Producer	Fred
2356	ideal survivor	1	0	0	survivor	ideal	JJ NN	Yatea_1	
8190	illegal booty	1	0	0	booty	illegal	JJ NN	Yatea_1	
7363	illegal catch	2	0	0	catch	illegal	JJ NN	Yatea_1	
932	illegal cod	10	0	3	cod	illegal	JJ NN	Yatea_1	
5294	illegal cod fishing	1	0	0	fishing	illegal	JJ NN NN	Yatea_1	
7610	illegal cod landings	2	0	0	landings	illegal cod	JJ NN NNS	Yatea_1	
5613	illegal cod story	1	0	0	story	illegal cod	JJ NN NN	Yatea_1	
492	illegal fish	6	0	1	fish	illegal	JJ NN	Yatea_1	V
4989	illegal fishing	10	0	5	fishing	illegal	JJ NN	Yatea_1	
6448	illegal fishing activities	2	0	0	activities	illegal fishing	JJ NN NNS	Yatea_1	
3860	illegal fishing boats	1	0	0	boats	illegal fishing	JJ NN NNS	Yatea_1	
6720	illegal fishing-vessels	1	0	0	fishing-...	illegal	JJ NNS	Yatea_1	
7946	illegal irregularities	1	0	0	irregula...	illegal	JJ NNS	Yatea_1	

Illustration 12: Term candidate grid

Tip: TyDI remembers the candidate terms previously selected in a grid, and allows navigating backwards and forwards thanks to the two arrow buttons located on the term navigation toolbar.

The table displays most of the term features in distinct columns. It also display additional columns to render the candidate validation status set by each user recruited as validator for the current project. The validation columns display the validation status and the optional justification comment. The specific rendering of the validation status is a project specific property (in V0.2, list box and radio-button rendering).

3.4.3.1 Table visual settings

The table visual organisation is very flexible, and can be adapted to your preferences:

- Click and drag of the column header vertical boundaries resize the columns,
- Simple drag and drop of the column header reorder the columns,

Columns can be hidden and restored thanks to a specific dialog box, opened by a click on the top-right corner of the table (or via the context-sensitive menu on any column header)

- Rows can be sorted following any of the column by a simple click on the column header: first click on the header to perform ascending sort on the column; second click will toggle to descending sort; and a third click will restore the natural order (alphabetical sort on the surface form).

  It is also possible to perform sorting on any number of rows by using Shift-click to add new column to the sort group.

Of course, all these settings are stored in the application preferences and reused for any subsequently opened table.

3.4.3.2 Term candidate Table details

The term candidate table contains one row per term retrieved from the database that verifies the filter. Most of the term features are displayed in the table column.
Besides, quick term browsing is provided by double-clicking on a cell of the table: it opens a new term grid containing a new list of terms, the content of which depends of the clicked feature cell, as described in the table below.

Column	*Description*	*Associated action (double-click)*
Id	TyDI term candidate identifier	None
Prevalidation	Prevalidation string (from tab separated value file import only)	None
Surface form	Surface form of the term candidate, as found in the corpus	Open a new grid containing all the term candidates which are part of the syntactic analysis of the current candidate
Number of occurrences	Number of occurrences of the form within the corpus.	Open/refresh the context window displaying the occurrences of the selected candidate within the corpus. (Available only if the corpus has been imported in the project)
Number of documents	Number of distinct document where the candidate is found.	None
Head productivity	Number of term candidates the head of which is the current candidate	Open a new grid containing all the term candidates the head of which is equal to the current candidate
Expansion productivity	Number of term candidates the expansion of which is the current candidate	Open a new grid containing all the term candidates the expansion of which is equal to the current candidate
Head	Head form	Open a new grid containing all the term candidates that have the same head than the current candidate (i.e. head family)
Expansion	Expansion form	Open a new grid containing all the term candidates that have the same *Expansion* than the current candidate (*i.e.* expansion family)
Syntactic category	Part of speech tag (POS tag)	Open a new grid containing all the term candidates that have the same POS tag than the current candidate.
Lemma	Lemma of the candidate.	None
Supersedes	Number of term candidates that have been regrouped under the current candidates (see post-YaTeA processing).	Open a new grid containing all the term candidates superseded by the current candidate.
is Inferred	True if the term is not found in the corpus alone in a maximal noun phrase (MNP), but has been	None

	retained for the syntactic analysis of larger term.	
Number of words	Number of words in the form.	None
is Concept	True when the current term is selected as candidate to be the label of a concept in ontology.	None
is Dismissed	True if the term is detected by the extractor, but has been filtered out (optional YaTeA post-processing).	None
Producer	Processing or user who created the term.	None
Is pseudo Term	Is set to true by the user if the term candidate is not member of the target terminology, but should be kept as an alternative form in a semantic classes for indexing purposes.	None
Unparsed	True for YaTeA unparsed phrase	None
Validation	Validation status and comment Note: if the cooperative validation mode is set for the project, one validation column per user is displayed (see 3.4.5.2)	None

3.4.4 Displaying candidate features

3.4.4.1 Property sheet

The property sheet can be opened thanks to the command located in the Windows main menu.

The property sheet is a general purpose view, that displays in a tabular format, information about the selected elements.

It can be advantageously used to display features of a candidate, especially when some columns of the candidate table are hidden.

Properties are separated in two distinct sets: the first one contains the actual properties of the term, as they are found in the corpus or computed by the term extractor. On the other hand, the “Expert” set includes user editable properties, such as the “Concept” and “Pseudo-term” tags (see 4.1).

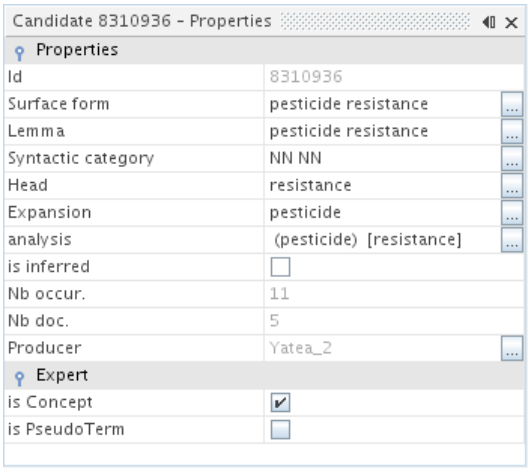


Illustration 13: Property sheet (displaying term candidate info)

Note 1: it is possible to tag several terms at once by selecting them in a term grid, and setting a new value in the property sheet.

Note 2: It is possible to select property text to copy it into the clipboard. Text from the term grid cannot be copied.

3.4.4.2 Context window

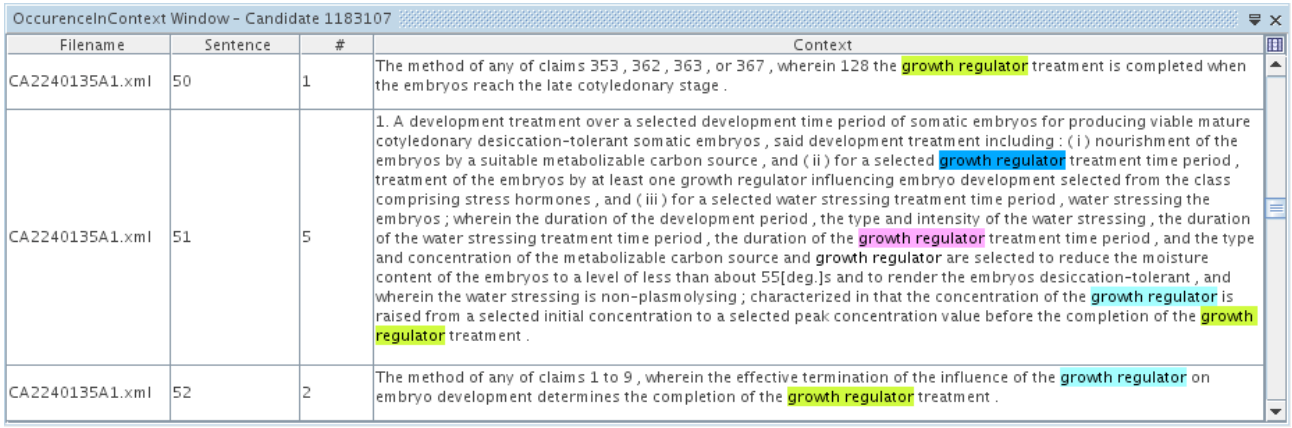

OccurenceInContext Window - Candidate 1183107
Filename
Sentence
#
Context
CA2240135A1.xml
50
1
The method of any of claims 353 , 362 , 363 , or 367 , wherein 128 the growth regulator treatment is completed when the embryos reach the late cotyledonary stage .
CA2240135A1.xml
51
5
1. A development treatment over a selected development time period of somatic embryos for producing viable mature cotyledonary desiccation-tolerant somatic embryos , said development treatment including : (i) nourishment of the embryos by a suitable metabolizable carbon source , and (ii) for a selected growth regulator treatment time period , treatment of the embryos by at least one growth regulator influencing embryo development selected from the class comprising stress hormones , and (iii) for a selected water stressing treatment time period , water stressing the embryos ; wherein the duration of the development period , the type and intensity of the water stressing , the duration of the water stressing treatment time period , the duration of the growth regulator treatment time period , and the type and concentration of the metabolizable carbon source and growth regulator are selected to reduce the moisture content of the embryos to a level of less than about 55[deg.]s and to render the embryos desiccation-tolerant , and wherein the water stressing is non-plasmolysing ; characterized in that the concentration of the growth regulator is raised from a selected initial concentration to a selected peak concentration value before the completion of the growth regulator treatment .
CA2240135A1.xml
52
2
The method of any of claims 1 to 9 , wherein the effective termination of the influence of the growth regulator on embryo development determines the completion of the growth regulator treatment .

Illustration 14: Occurrence in the context window

The context window table highlights occurrences of a given term candidate within the corpus text.

The table contains one row per sentence containing an occurrence. The columns display:

- the name of the source file,
- the sentence rank within the file,
- the number of occurrences in the sentence,
- the sentence text with highlighted occurrence (multiple occurrences present within the same sentence are highlighted with different colours).

Notes:

- the visual settings of this table can be set as for the Candidate table (see 3.4.3.1)

- In order to select a part of the sentence, double-click in the sentence cell, then select a text part and copy it to the clipboard (use keyboard short-cut).

3.4.5 Term candidate validation

While browsing the term candidates, the user can quickly assign a validation status to the terms in the cell of the column named by the user identifier or *Validation* and located in the same table row.

Note: superseded candidates and dismissed candidates cannot be validated.

3.4.5.1 Validation status

By default, TyDI offers to choose amongst five distinct status values, because in real project, it is not always easy to put each term in one of the two distinct class: “valid terms” or “invalid terms”.

The table below explain the meaning of these status values.

Status label	Description
	No status assigned to the term candidate.
D	Candidate term to be removed (irrelevant for the application purpose).
D?	Candidate term to be removed, but the user is unsure, should be checked
?	Not decided after examination
V?	Candidate term to be kept but the user is unsure, should be checked.
V	Candidate term to be kept (relevant for the application purpose).

Note: the number of distinct status values, and their associated label is actually a project specific parameter. It can be customized.

3.4.5.2 Validation modes

There is two distinct validation ways available that should be set as a project parameter:

- drop-down list,
- radio button, where the label status is not displayed, but which is a quicker way to validate long series of terms.

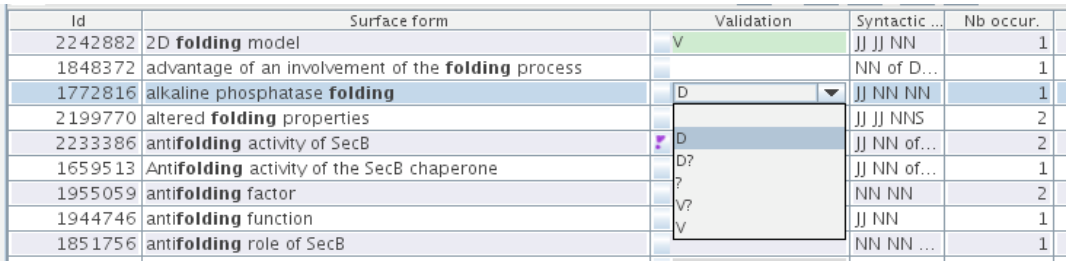
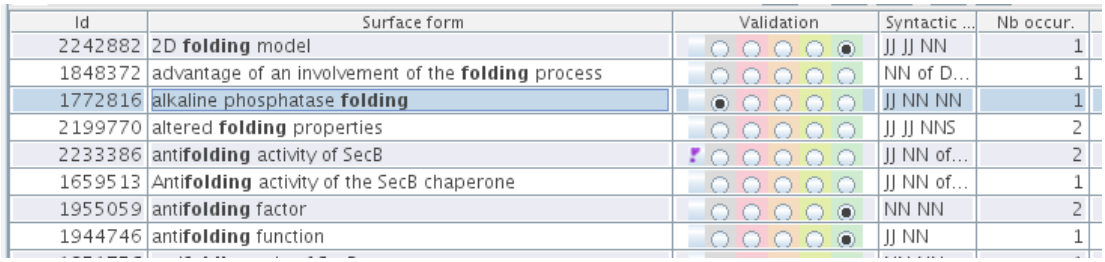

Id
Surface form
Validation
Syntactic ...
Nb occur.
2242882 2D folding model V JJ JJ NN 1
1848372 advantage of an involvement of the folding process NN of D... 1
1772816 alkaline phosphatase folding D JJ NN NN 1
2199770 altered folding properties JJ JJ NNS 2
2233386 antifolding activity of SecB D JJ NN of... 2
1659513 Antifolding activity of the SecB chaperone D? JJ NN of... 1
1955059 antifolding factor ? NN NN 2
1944746 antifolding function V? JJ NN 1
1851756 antifolding role of SecB V NN NN ... 1

Illustration 15: drop-down list based validation (blind mode)

-



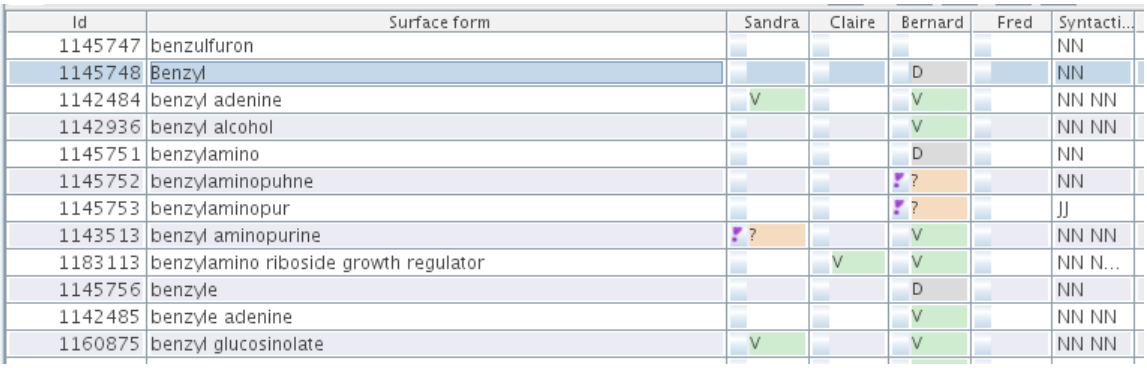
Id	Surface form	Validation	Syntactic ...	Nb occur.
2242882	2D **folding** model		JJ JJ NN	1
1848372	advantage of an involvement of the **folding** process		NN of D...	1
1772816	alkaline phosphatase **folding**		JJ NN NN	1
2199770	altered **folding** properties		JJ JJ NNS	2
2233386	anti**folding** activity of SecB		JJ NN of...	2
1659513	Anti**folding** activity of the SecB chaperone		JJ NN of...	1
1955059	anti**folding** factor		NN NN	2
1944746	anti**folding** function		JJ NN	1

Illustration 16: radio button based validation (blind mode)

Moreover, there are two distinct validation modes (depending on a project parameter):

- blind mode: the current user makes his own validation without seeing the validations performed by other users.
- cooperative mode: the current user can see the validations performed by other users (if any)

In cooperative mode, the table displays one column per user participating in the project (the column headers contain the corresponding user name).



Id	Surface form	Sandra	Claire	Bernard	Fred	Syntacti...
1145747	benzulfuron					NN
1145748	Benzyl			D		NN
1142484	benzyl adenine	V		V		NN NN
1142936	benzyl alcohol			V		NN NN
1145751	benzylamino			D		NN
1145752	benzylaminopuhne			?		NN
1145753	benzylaminopur			?		JJ
1143513	benzyl aminopurine	?		V		NN NN
1183113	benzylamino riboside growth regulator		V	V		NN N...
1145756	benzyle			D		NN
1142485	benzyle adenine			V		NN NN
1160875	benzyl glucosinolate	V		V		NN NN

Illustration 17: drop down list based validation (cooperative mode)

3.4.5.3 *Validation justification*

If necessary, users can write a free text comment as a validation justification or as a way to qualify terms for further processing (*e.g.* segmentation problem, OCR error, incomplete, named entity).

Clicking on the button located on the left side of the validation widget open the comment edit window.

- When no comment is set, the button face is empty.

- When a comment is set, the button face contains a purple exclamation mark.

Illustration 1: drop-down list based validation (blind mode)

Note: The tooltip text of the comment button contains the text of the comment. Hence, the comment can be read just by pointing the button with the mouse pointer and wait for a few seconds for the tooltip to appear. This is especially useful to read other user comment in the cooperative mode.

3.5 Toolbar summary

Illustration 18: TyDI toolbars

The actions that can be performed within TyDI depend on the current selection. Hence, some buttons on the toolbars may be disabled.

Here is a quick summary of the available actions:

	Term navigation (backward and forward) over the selected terms
	Project statistics
	Project export (text and OBO format)
	FastR result import in an existing project
	Import extractor result in an existing project (YaTeA format or Tab separated values)
	Import extractor result in a new project (YaTeA format or Tab separated values)
	Import text file in an existing project (*e.g.* synonym, typo variant, hyponyms)
	Open a new term search window
	Open a new FastR link exploration window
	Open a new Semantic Class Tree

	Change current user password
	Edit user authorisations
	Edit user profiles

4 Advanced usage

4.1 Optional term features: concept, pseudo term

Independently of the validation status, we distinguish three types of terms:

- standard well-formed terms, that belong to the target terminology,
- terms that actually denote concept, that should be marked to appear as label of the concept in ontology derived from the terminology. They are tagged “Concept”.
- malformed terms that do not belong to the final terminology, but must be kept as alternative forms for indexing purposes. These should be tagged “pseudo-term”.

4.2 Terminology structure design

Beyond validating terms, TyDI allows to structure the terminology by creating links between terms and classes of terms.

All these operations are performed using the *Semantic class* window, or the *Semantic classes tree view* windows (see 4.2.4).

The *Semantic class* window displays a class tree view and a toolbar including all buttons needed to perform actions on the selected nodes. The nodes are indicated by a (see Illustration 19).

There are three different types of nodes,

=	terms with different roles
	term classes
	and structure nodes

Click on a node open it and displays specific information.

- Click on a term displays the term links,
- Click on a term class displays the members of the class
- Click on the structure node displays the links of the class.

Similarly to the application main toolbar, the available actions depend on the nodes selection, and the buttons are enabled/disabled consequently.

4.2.1 Semantic class view description

There are three kinds of link:

- links to group terms sharing the same meaning, hence to build semantic classes,
- links between semantic classes, corresponding to ontological and semantic relation,
- links between terms corresponding to semantic relations based on morphosyntactic transformations.

A semantic class is defined as a set of terms; the role of a term in a class can be of three distinct types:

	class representative	there is always one and only one such representative per class, and a term can be the representative of one single class only. The name of the class is the surface form of the representative.
=	synonym	for terms having the same meaning as the representative with respect to the application need. It is a transitive relation.
~	quasi-synonym	for terms having a close meaning to the class representative, in a certain context only (non-transitive relation).

Semantic classes can also be related to each other:

	Hyponymy / hyperonymy	Linked classes are linked by a general / specific ("is-a") relation (directed / asymmetrical link)
	Antonymy	Linked classes have opposite meaning (undirected / symmetrical link).

There are at least four types of link between terms:

T	Typographic variant relation	Link used for example to bound misspelled form of the same term.
A	Acronym	Link between the acronym and its extended form (directed / asymmetrical link)
F	FastR variant relation	Variant relation, as proposed by FastR tool. These links are not editable by users (read-only). (directed/asymmetrical link)
	Translation	Synonymy link between terms in different languages

Note: in the case of directed link, the link icon contains a small arrow head to indicate the direction of the link.

For example, in the screen capture below, "seed of corn" is an hyponym of "seed".

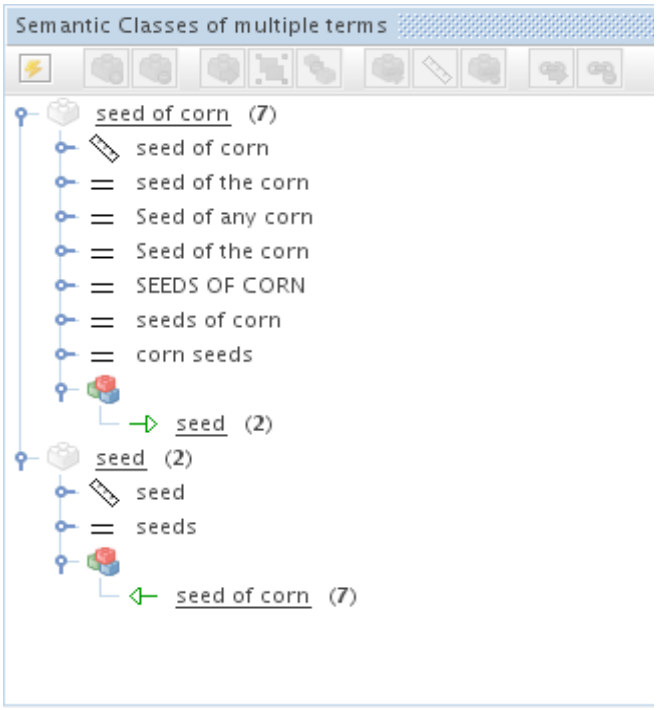


Illustration 19: Semantic class window

The Term link button allows to open/refresh the Semantic class and Term link window.

	The expand/collapse button allows expanding / collapse the selected nodes.

4.2.2 Adding links between terms and classes

We have seen that it is easy to create a semantic class from a selection of terms from the term grids,

Click on the *Create class* button creates a new semantic class containing all selected terms.

Then adding new terms in existing semantic classes is performed by drag and drop gestures. Dragging can be initiated either from a term grid, or from the semantic class view itself.

- There are three types of drop targets (grey arrows in image below), corresponding to the three possible kinds of link as described above.

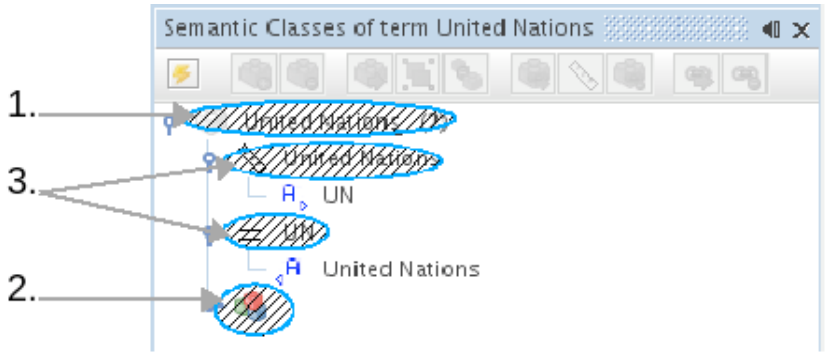


Illustration 20: Drop targets in Semantic class window

– Class node: dropping a term on a class (1) of the semantic class view creates a synonymy link between the term and the other terms of the class;

– Class-relation node: dropping either a class dragged from the semantic class view or a representative term dragged from a term grid on the class structure icon (2) adds a link between the two semantic classes. The link is an hyperonymy, or an hyponymy or an antonymy link as proposed by the scrolling menu;

– Term node: dropping a term dragged from a term grid or from the semantic class view on a term node (3) adds a link between the two terms. The link is a typographic variant, an acronymy or a translation link as proposed by the pop-up menu.

Note that the menu appears once the mouse button has been released. *Esc* button or dragging the mouse pointer out of the menu cancels the action.

4.2.3 Removing links among terms and classes, and more

Link deletion can be performed by selecting the corresponding node in the *Semantic class* view, and clicking on the relevant button in the toolbar.

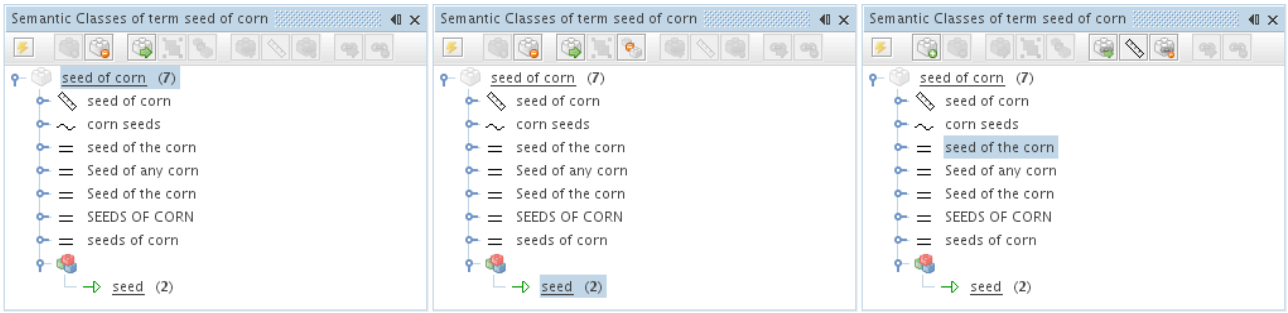


Illustration 21: context enabled actions in the Semantic class window

The available actions are summarized below.

/	Synchronize with	Toggle button used to freeze the view to the currently selected

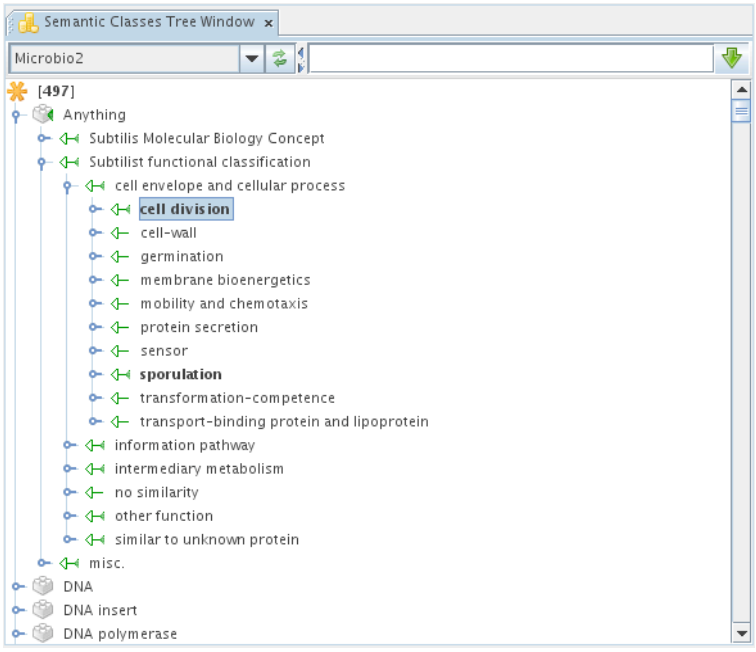
	selection	term(s) of the term grid. By default, the view is always synchronized with the current term selection.
	Create class	Create a new semantic class containing all selected terms within the semantic class window.
	Remove class	Remove all selected classes.
	Show class	Show in the view the selected class only. Useful to navigate through the class-to-class links. Note: this action is triggered by a double click on a class-to-class link.
	Classes fusion	Merge the two selected classes: the resulting class contains the union of the terms of source classes. It is also linked to the classes that were linked to the source classes (hyper/hypo and antonyms).
	Remove class/class link	Remove the selected class link(s)
	Show term classes	Show in the view the classes containing the currently selected term.
	Change synonym type	Change the type of the term in the context of the class. The available types include: class representative, synonym and quasi-synonym.
	Remove synonym	Remove the selected terms from the class. Note: the class representative cannot be removed from the class.
	Show linked term classes	Show in the view the classes containing the currently selected linked term. Note: this action is triggered by a double click on a linked term.
	Remove term/term link	Remove the selected term/term link(s)
	Expand	Expand the selected node(s) of one level in depth Note: if a selected node is already open, then it will be expanded in depth till its leaf(s)
	Collapse	Collapse the selected node(s)

4.2.4 Semantic class tree view description

This window displays in a single view the global hyperonym/hyponym hierarchy of a terminology.

Drag and drop gestures are used within this view to create or delete hyperonymy relations between classes.

Tip: Several Semantic Classes views can be opened at the same time on the same of on distinct projects.



Semantic classes tree window

The window is divided in two distinct areas:

- a toolbar at the top, which displays the current terminology project (it can be changed); a refresh button (to read the data anew from the database); and a search field (use Ctrl-F as a shortcut, and Enter key to find next occurrence).

- a panel, which displays the hyperonym/hyponym tree.

-

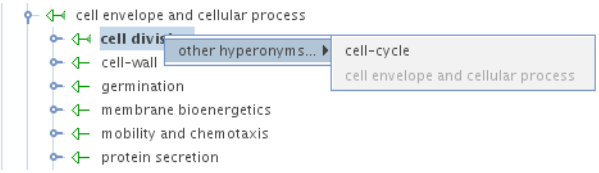
The tree can contain 4 different types of node (plus a unique root node), corresponding to semantic classes contained in the project, as described below:

	Root node	This special node as no name, but it displays the total number of rooted classes.
	Rooted lonely class	Class without any hyperonym or hyponym
	Rooted hyperonym class	Class without any hyperonym, but with associated hyponym(s)
	Leaf hyperonym class	Class associated to hyperonym(s), but without any hyponym

	Hyponym and Hyperonym class	Class both associated to hyperonym(s) and hyponym(s)

The label associated to the nodes is the surface form of the representative of the class. If the font used for this label is bold, it means that the class is associated to several hyperonyms.

Note : Its is possible to jump to another hyperonym thanks to the context sensitive menu.



4.2.4.1 link modification

In this view, all modifications are performed using drag and drop (DnD) gestures.

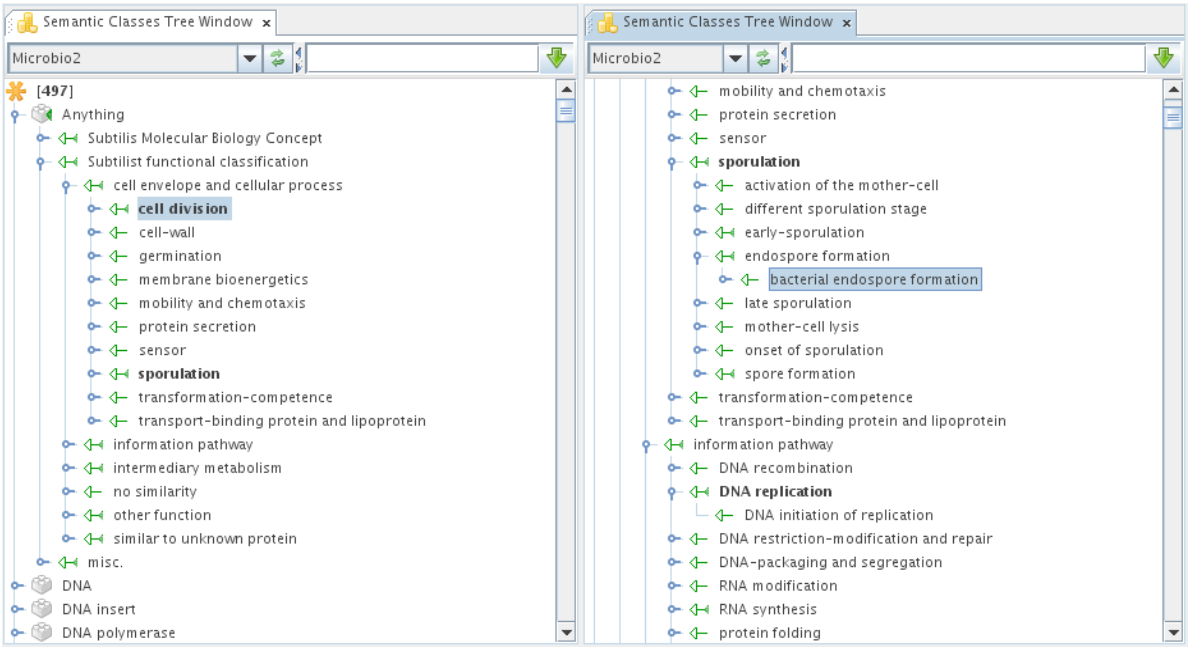
The default DnD action is a “Copy operation”; it is symbolized by a plus sign that appears in the mouse pointer when dragging has started.

But is it possible to change the DnD action to the “Move operation”, by pressing the Ctrl-Shift. When doing so, the dragged hyponym class will be actually moved from one hyperonym to another.

In summary, two distinct operations can be performed:

- Create a link: the hyponym class must be dragged, and then dropped on its new hyperonym class. Of course, if the dragged class was not associated to any hyperonyms (i.e. it was a child of the root node), the gesture will behave like a DnD “Move operation” (regardless of the mouse pointer aspect).
- Delete a link: the hyponym class must be dragged, and then dropped on the root node (In this case, it always behaves like a DnD “Move operation”).

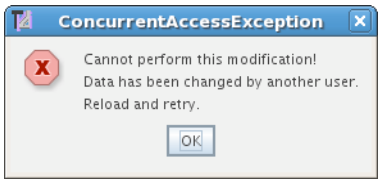
Note: It is strongly advised to open side to side two Semantic Classes views on the same projects to efficiently work on a project, since it is possible to drag a class on the first view, and drop it in the second one, allowing to create relation between widely separated classes.



4.2.4.2 *Cooperative work and concurrent modification*

Since several users can work at the same time on the same terminology project structure, it may happen that they whish to change the same data independently.

Then, the tree view might not be synchronized with the actual data stored in the database. So, if a user is about to modify data that has been changed by another user (after the data displayed has been read from the database), he will be warned via a specific dialog and the modification will not occur.



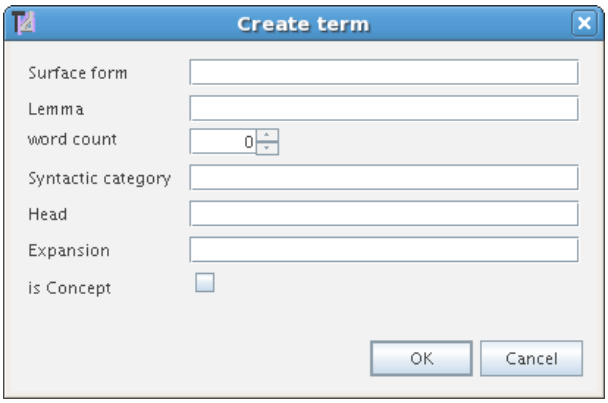
Moreover, the tree view will be refreshed to display the new data state, but in some case, you may need to update the entire view thanks to the refresh button.

4.2.5 Adding a term

When shaping a terminology, it sometimes happens that some level of the hierarchy cannot be embodied by any already available terms (because the term is not found in the corpus, or for some reason has not been detected by the term extractor).

Thus it is possible to manually create a new term in a terminology project thanks to the dedicated button available in the Term Grid toolbar.

To create a new term, the user need to enter the term properties in the dialog box, then click the Ok button.



Note : Term creation should be scarcely used.

4.3 Term Grid Local filter

The *term grid local filter* is a second level of filter compared to filter criteria panel. It is used to temporally hide some terms on the term grid. It can be quickly enabled/disabled thanks to a specific toggle button.

This is a very powerful tool that can be combined with a first level selection criterion to refine the list of the terms displayed in the grid.

	Local filter button: allows defining a local filter by specifying a regular expression that is applied to one of the visible columns.
/	Apply local filter toggle button: allows quickly enabling or disabling the local filter if defined.

Note: it is called local filter because it does not query the database each time the filter is modified or applied; Hence its quickness.

4.3.1 Regular expressions

The description of regular expressions is beyond the scope of this document.

For more information, see http://en.wikipedia.org/wiki/Regular_expression

Briefly, regular expressions work similarly to the wildcard characters used in the text fields of the filter panel (as described in 3.4.1): the regular expression is tested against each row of the grid; a row is then showed only if the expression evaluates to true.

Regular expressions include other constructs than the wildcards that are useful to express more complex filters on string patterns, for instance:

- character classes (short form for sets of characters)
- alternative of pattern (logical OR)
- grouping,
- quantification (number of successive occurrences of pattern)
- anchors (whether a pattern occurs at the beginning or at the end of the line).

4.3.2 Regular expression short references

Predefined Character Classes	
`.`	matches any character
`\d`	matches a digit ([0-9])
`\s`	matches a whitespace character (space, tabulation)
`\w`	matches a word character (alphanumeric)

User defined Character Classes	
`[xyz]`	matches *x* or *y* or *z*
`[a-g]`	matches any character within the interval *a* to *g*

`[^xyz]`	matches any character except *x*, *y* and *z*

Alternative	
`xyz|abc`	matches *xyz* or *abc*

Quantifiers	
`?`	once, or not at all
`*`	zero or more times
`+`	one or more times
`{n}`	exactly *n* times
`{n,}`	at least *n* times
`{n,m}`	at least *n* times, but no more than *m* times

Anchors	
`^`	start of the line
`$`	end of the line

Note: matching any of the special characters used by the regular expression language, requires prefixing it by an antislash bar. (For example, `\$` to match the dollar sign)

4.3.3 Local filter examples

Note: the content of the cell is considered as a whole line, and by default, the local filter regular expression is anchored at the beginning and at the end of the line.

Regular expression	Matching strings
`DNA`	Any string strictly equal to DNA
`.*DNA.*`	any string containing DNA
`.*DNA|RNA.*`	any string containing DNA or RNA
`.*(D|R)NA.*`	any string containing DNA or RNA
`.*\.`	any string finishing by a period
`.*[,;:.].*`	any string containing at least one punctuation mark amongst: comma, semi-colon, colon, period
`.*s{1}$`	any string finishing by one and only one 's'
`^[A-Z]+.*`	any string beginning by at least one capital letter
`.*[0-9]+.*`	any string containing at least one decimal character
`.*\d+.*`	idem (simplified form)

4.4 Term variants

Most of the time, a term comes upon various distinct forms. Depending on the purpose of the terminology design, the user might want to reassemble variants corresponding to validated terms.

TyDI allows to easily exploiting the result of a specific variant detecting tool called FastR, in order to enrich a terminology project with term variants that might not have been discovered by the term extractor, and to link these variants to one representative term.

4.4.1 Variant discovery using FastR

This is a three steps procedure:

1. FastR must be fed by a certified term list and a corpus. It can be the terms validated through TyDI and exported in the relevant format (see Terminology export in 3.4.2).
2. Import FastR result file in TyDI,

Important note: This functionality is currently not available when using **Web Service** access.

The FastR import button is located in the Project toolbar.

It is enabled when a corpus node (corresponding to a YaTeA or a tab separated value import) is selected in the Project window.

3. Explore FastR variant proposals and qualify Fastr morphosyntactic variation links as semantic relationships.

The FastR variants window is opened by clicking on the button is located in the Project toolbar; it is enabled when a Project node is selected in the Project window) (this command can also be found in the context-sensitive menu under the Project node in the Project window).

4.4.2 FastR variant proposals view

Using FastR variant proposal view is similar in use to the term search window: it contains a filter panel to refine data retrieval, and a term grid which displays pairs of terms found as variant by FastR (one pair by row).
Combined with the semantic class view detailed in 4.2.1 , it helps the user to quickly qualify FastR proposals into semantic links by creating new synonymy classes (or enrich existing ones) and hyper/hyponymy links.

4.4.2.1 FastR variants filter panel

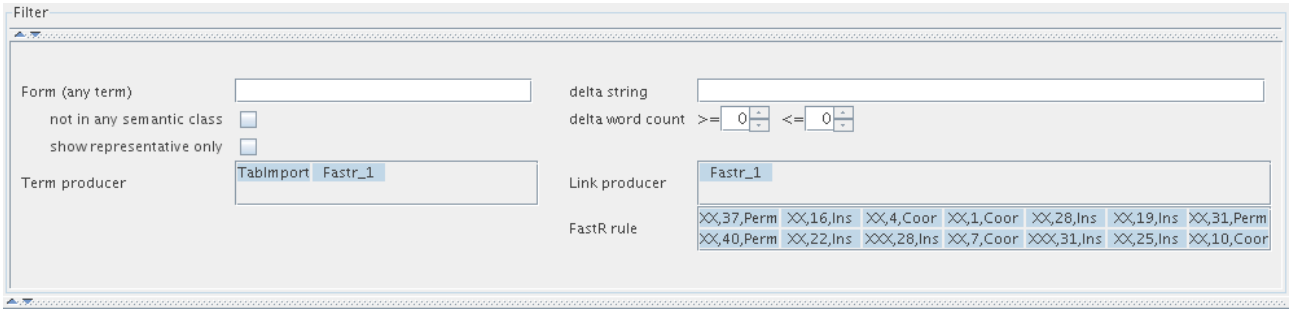


Illustration 22: FastR variants filter panel

The table below contains a short description of the features that can be used as filter criteria.

Feature	Description

Form	Surface form of the any term (the origin tem or the variant suggested by FastR)
Not in any semantic class	Check this box to retrieve only terms that are not already part of a semantic class
Representative only	Check this box to retrieve only terms that are representative of a semantic class
Term producer	Processing or user who created the term
Delta string	String difference between the origin term and the variant
Delta word count	Number of words contained in the delta string
Link producer	Processing who created the variation term link
FastR rule	Rule used by FastR to discover the variant

4.4.2.2 FastR variants grid

Each column composing this grid is actually related to one of three distinct objects:
- the variant term (id, form, producer and validation status on the left of the figure 23),
- the variation link (rule, nb word , delta string and producer in the middle of the figure 23),
- the origin term (id, form, producer and validation status on the right of the figure 23).

Hence the currently selected term can be either the variant or the origin term depending on which cell in the table got the focus, unless you performed a multiple selection by dragging a rectangular zone over the grid.

643 rows

Variant Id (V)	Surface form (V)	Pro...	Validati...	FastR Metar...	Nb wor...	Delta string	Lin...	Origin I...	Surface form (O)	Produc...	Validati...
1195201	crop plant varieties	Tab...		XX,16,Ins	1	plant	Fas...	1195167	crop variety	TabIm...	
1195404	closed vessel	Tab...		XX,16,Ins	1	sterile	Fas...	1195400	closed sterile vessel	TabIm...	
1195911	wall of the cells	Tab...		XX,37,Perm	2	of the	Fas...	1195902	cell walls	TabIm...	
1197721	yields of mushroom cell biomass	Tab...		XX,37,Perm	3	of mushroo...	Fas...	1197674	biomass yield	TabIm...	
1197722	yields of crops	Tab...		XX,37,Perm	1	of	Fas...	1197677	crop yield	TabIm...	
4882779	yield of crop	Fast...		XX,37,Perm	1	of	Fas...	1197677	crop yield	TabIm...	
4882781	C1-C4) alkyl	Fast...		XX,22,Ins	0	)	Fas...	1143102	C1-C4 alkyl	TabIm...	
4882784	grain is corn	Fast...		XX,31,Perm	1	is	Fas...	1161126	corn grain	TabIm...	
4882786	cotyledonary zygotic cacao embryos	Fast...		XX,16,Ins	2	zygotic cacao	Fas...	1155714	cotyledonary embryo	TabIm...	?
4882788	adventitious buds produce rootable shoots	Fast...		XX,16,Ins	3	buds produ...	Fas...	1187942	adventitious shoot	TabIm...	
4882790	walls generated by active cell	Fast...		XX,37,Perm	3	generated ...	Fas...	1195902	cell walls	TabIm...	
4882792	B5 culture medium	Fast...		XX,16,Ins	1	culture	Fas...	1168772	B5 medium	TabIm...	

Illustration 23: FastR variants grid

Note: Term validation can be performed thanks to this grid.
Note: When a candidate term variant suggested by FastR has not already been validated before, it is created but marked with a specific term producer (as shown on the figure 23),

4.4.2.3 Variant grid toolbar

This toolbar contains a subset of action buttons available in the Term grid toolbar.

	Apply button: execute the query with the current values of the criteria. Short-cut: enter key
	External search button: launch a search of the selected term surface form
	Context button: open/refresh the context window displaying the occurrences of the selected term in the corpus.

	Term link button: open/refresh the Semantic class and Term link window to display the classes containing the selected term.
	Create class button: create a new semantic class containing all selected terms.
	Graph display button: Display selected terms in a graphical view (see 4.4.3).
	Rows count field: shows the total number of term candidates currently displayed (excluding those filtered out by the local filter)

4.4.3 FastR variants graphical view

FastR variants graphical view is a simple graphical view where terms are represented in rectangular boxes, and linked together by magenta lines representing FastR variation proposals.

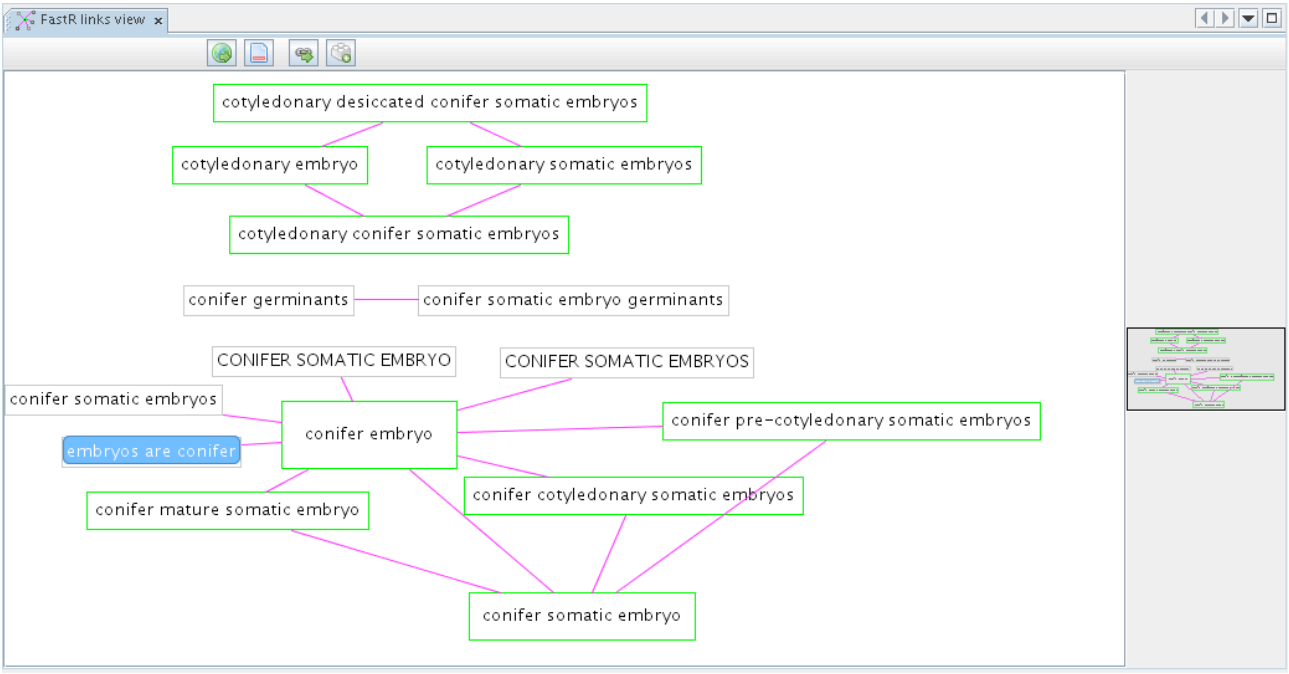


Illustration 24: FastR variants graphical view (after manual rearrangement)

A grey box surrounds terms linked to only one other term. Otherwise the boxes are green, and the most linked terms are represented in bigger boxes: the biggest box is usually the best term representative for a synonymy class.

Boxes can be moved by a simple dragging gesture. Linked terms can by automatically rearranged around the currently selected box thanks to a right click.
Like in any other view, terms can be selected in this view. The available actions are a subset of the ones described before.

Note that the terms belonging to the same subgraph are not necessarily synonyms

(For example “conifer somatic embryo” is a kind of “conifer embryo”);

Likewise, “conifer pre-cotyledonary somatic embryo”, “conifer cotyledonary somatic embryo” and “conifer mature somatic embryo” are different specific kinds of “conifer somatic embryo”)

Of course, not all FastR candidate term proposals are valid
(for example “embryo are conifer” is obviously not a term!)

4.5 Modular text import utility

Important note: This functionality is currently not available when using **Web Service** access.

Sometimes a terminology project is built up from distinct resources. The modular text importer can enrich an existing project in TyDI.

Three distinct categories of data can be imported in a project. If necessary, the import process will create new terms and new semantic classes, and the corresponding links between these objects.
In the case of hyponym/hyperonym import, newly created terms can optionally tagged as ”Concept”.

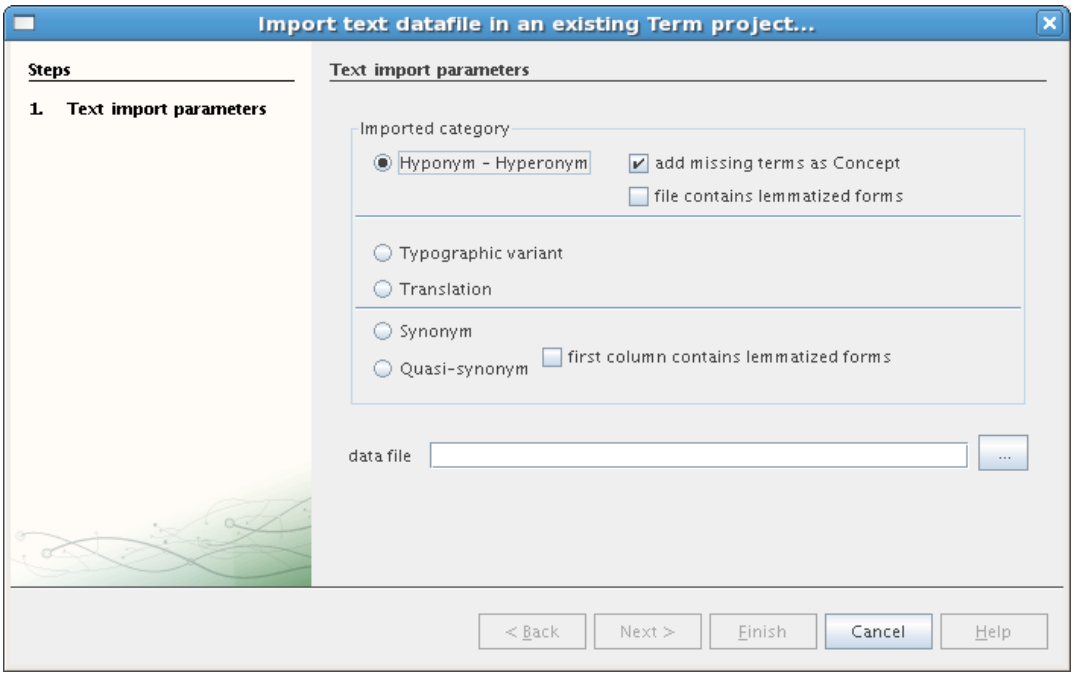


Illustration 25: Modular text import wizard

4.5.1 Input file in text format

Text format of input files uses the tabulation character as field separator. The row should not contain a header. The column should contain a header as described in Appendix 7.1.

The expected columns are:

- Synonyms (2 columns): surface form of the synonym; surface form of the class representative;
- Quasi-synonyms (2 columns): surface form of the quasi-synonym; surface form of the class representative;
- Typographic variant (2 to N columns): surface form of variant 1; ... surface form of variant N;

- Hyponyms/Hyperonyms (2 columns): surface form of the hyponym; surface form of the hyperonym.

4.6 Ontology import

Not implemented yet

4.7 Project export utilities

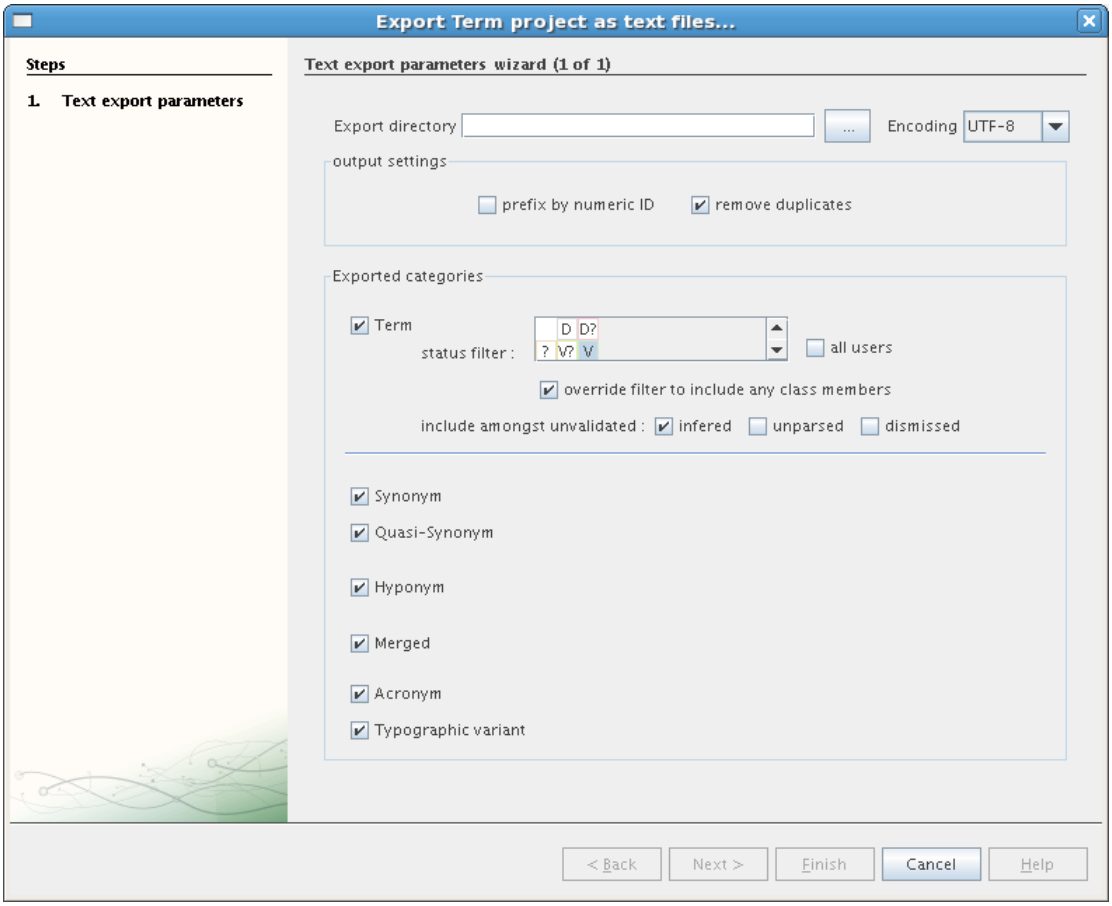
Important note: This functionality is currently not available when using **Web Service** access.

Project export utilities are used to export a whole project in a specific format.

The project export button is located in the Project toolbar.

It is enabled when a project node is selected in the Project window.

4.7.1 Text file export



The text file utility exports several types of data from a terminology project; it produces in a specified directory a set of text files, containing tab-separated values.

By default, duplicate lines are removed. A global option allows prefixing each field by the internal

term identifier.

The term file settings allow selecting the term to export depending on the validation status, as set by the current or by any of the other users. The filter can be overridden to always export terms that are part of a semantic class, whatever their validation status is.

If the non-validated status is selected, the user can choose to export *inferred*, *unparsed* or *dismissed* terms as well.

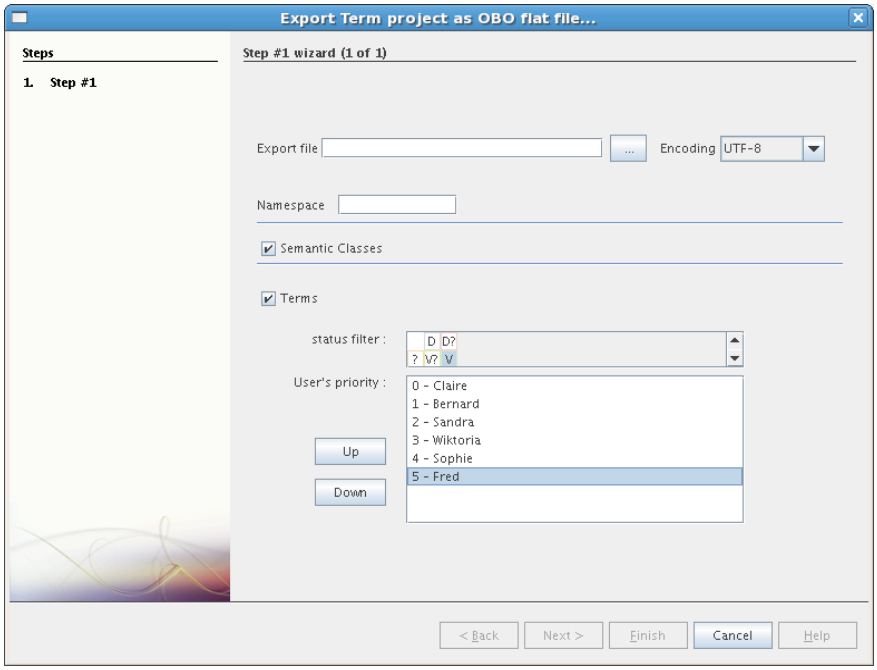
The produced columns are:

- Term (2 columns): lemmatized* form of the term; surface form of the term;
- Synonym (2 columns): lemmatized* form of the synonym; surface form of the class representative;
- Quasi-synonym (2 columns): lemmatized* form of the quasi-synonym; surface form of the class representative;
- Hyponym (2 columns): surface form of the hyponym; surface form of the hyperonym;
- Merged (2 columns): lemma* of the merged term; lemma* form of the representative term;
- Typographic variant (N columns): surface form of variant 1; …; surface form of variant N;
- Acronym (2 columns): surface form of the merged term; surface form of the representative term;

(*) Note: if a term has no lemma available, the surface form will be used instead.

4.7.2 OBO flat file export

The OBO flat file export utility exports semantic classes (including synonyms) and hyponymy relationship in the OBO Edit file format.



It is possible to choose whether the produced file includes semantic classes and/or simple terms.

Specific synonym categories are created and included in the output file in order to distinguish: exact synonym, quasi-synonym, acronym and typographic variant.

TyDI's term IDs are also exported and visible in OBO Edit as cross-reference.

Terms belonging to semantic classes (representative and synonyms) are always exported with no regards for their validation statuses.

On the other hand, simple terms will be exported only if they match the statuses selected in the export option panel. Actually, the option panel allows to define priorities among users in order to decide which term to export (For each term, the system search for a validation status, in the order of user priorities, and compare it to the statuses selected in the option panel).

Terms in conflict (i.e. for which at least 2 users disagree about the validation status) are displayed in the output window for further analysis.

5 Installation

The client installation is easy, but it requires that the server side is already available and that the user knows some server parameters (host name, access mode, database login & password, amongst others) to properly configure the data connection.

For more detail about database installation, see "TyDI Admin guide".

5.1 Requirement

The Terminology Design Interface client is a Java application. Thus it requires at least a Java Runtime Environment (version 1.6u25 or later).

The JVM must allocate at least 512 Mo memory. Depending of the size of the terminology project and the kind of usage (for example, several projects opened at the same time), the amount of memory needed can vary (see 6.3).

5.2 Client installation

5.2.1 OS specific installer

Depending on the OS you are using, you may download one of the available installer:

Linux	http://bibliome.jouy.inra.fr/TyDI_updateCenter/downloads/tydi_latest-linux.sh
MacOS X	http://bibliome.jouy.inra.fr/TyDI_updateCenter/downloads/tydi_latest-macosx.tgz
Windows	http://bibliome.jouy.inra.fr/TyDI_updateCenter/downloads/tydi_latest-windows.exe

Once downloaded, execute the installer and follow the installer instructions.

5.2.2 Generic zip archive

Alternatively, a generic zip distribution is available.

- Download the zip distribution at:

  http://bibliome.jouy.inra.fr/TyDI_updateCenter/downloads/tydi_latest.zip

- Extract it: it will create a subdirectory named tydi
- Launch the application.
  - If you are using MS-Windows operating system, you can start the application by executing *bin\tydi.exe* located under the newly created directory
  - If you are using an Unix-like or Mac operating system, you can start the application by executing *bin/tydi* located under the newly created directory.

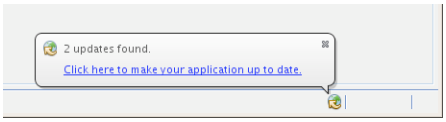
Once the client installed, you need to set up a database connection (see 6.1).

5.3 Client update

As of v0.3, TyDI can keep itself up to date by downloading and installing newer modules

(Checking for new version is performed at every start-up of the application).

TEMPORARIRY DISABLED



When a new version is made available, an icon will appear in the status bar: you just need to click on the dedicated hyperlink to open the update wizard that will guide you through the update process.

6 Parameterization

6.1 Connection configuration

The parameters needed to connect to a database instance are grouped and associated to a connection name in the application preferences (which is saved in a local file). Hence, it is easy to switch from one database to the other.

First, launch the application, but do not connect to a database: click the *Cancel* button when the login dialog appears.
Then, open the named connexions editing window: Tools / Option / Term Validation category / DataSources tab.

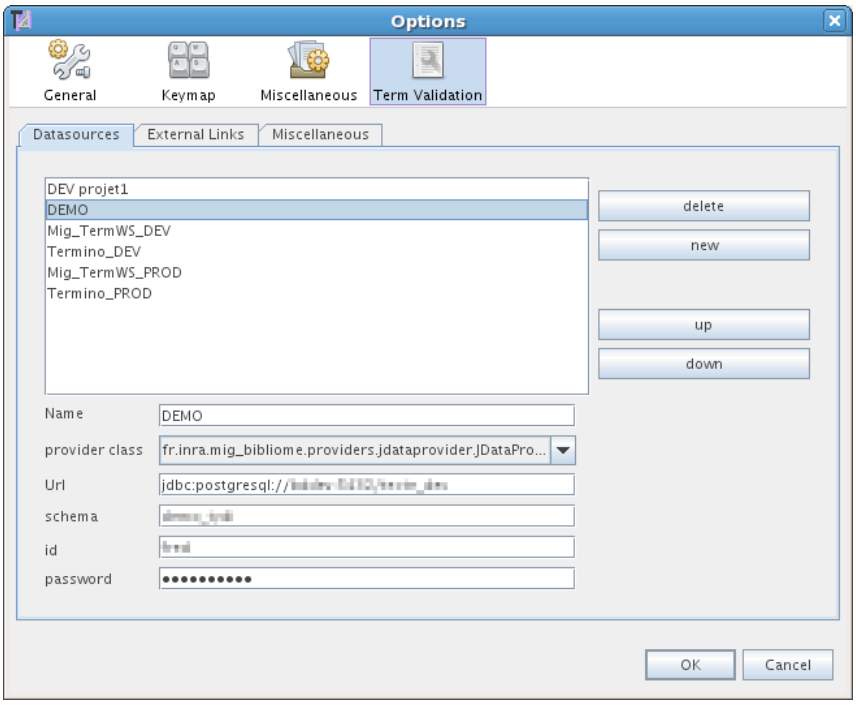


Illustration 26: Datasources option panel

The list located at the top of the window contains the existing named connections.

In order to edit a connection, you need first to select it in the list, and then perform the change in the fields below.

Confirm the changes by clicking on the save button (or discard them thanks to the Cancel button).

Clicking the New button creates a new named connection.

Clicking the Delete button deletes the currently selected named connection.

Your application administrator should have given you the parameters for your specific Datasources. See "TyDI Admin Guide" for more details.

Tip: TyDI is shipped with default Datasources. Removing all existing Datasource configurations and restarting TyDI will restore them.

6.2 External link to web browsers

When a term candidate is selected, it is possible to quickly perform a search of the surface form by launching an external web browser. It is possible to add a new search engine thanks to a dedicated option panel.

To open the external links editing window: Tools / Option / Term Validation category / External links tab.

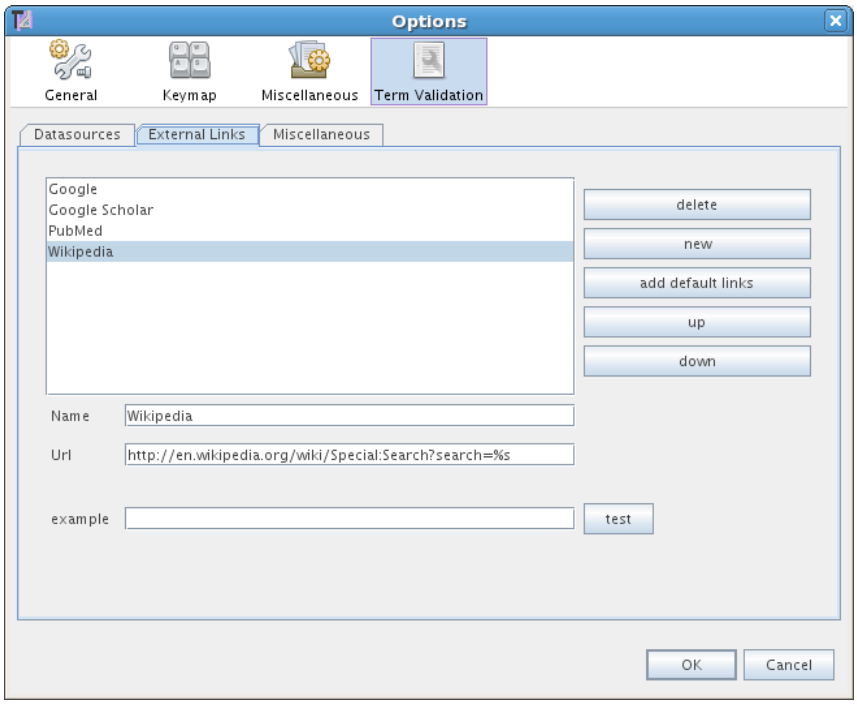


Illustration 27: External links option panel

The list of located at the top of the window contains the existing external links to web browsers.

In order to edit an external link, you need first to select it in the list, and then perform the change in the fields below.

Confirm the changes by clicking on the save button (or discard them thanks to the Cancel button).

Clicking on the New button creates a new external link.

Click on the Delete button deletes the currently selected external link.

In order to perform the search on the selected term candidate surface form, the url must contain a specific placeholder (%s), which will be replaced by the actual surface form. You can test the url you entered by typing a search string in the example field and clicking the “test” button.

Note: new users will not have any external link configured. Some default external search links can be quickly added by clicking on the “add default links” button.

6.3 Memory allocation

The maximum memory size allocated by the JVM is a parameter in the application configuration file (see “TyDI Admin guide”). The default configuration allows allocating up to 512 MB of memory.

If this amount is not adequate, it is possible to override the default value by adding a specific argument on the command line.

For example, to run with 1 GB of memory, type:

```
tydi  -J-Xmx1024m
```

6.4 Look and Feel

TyDI is a Swing application: hence, its GUI supports pluggable “Look and Feel”s (L&F).

Since TyDI has been designed with the cross platform L&F (called “Metal”), if another L&F is used you may experience some subtle visual flaws (see “TyDI Admin guide” for more details).

6.5 OS specificity

Even if the application is portable, there is some specificity depending of the operating system you are running.

The main differences appears in the look and feel (it can also differs from one version of Java to another)

The table below presents a list of these differences:

Issue	**Unix-like OS**	**Mac OS**	**MS-Windows**
command line execution* (*) path relative to installation directory	tydi/bin/tydi		tydi\bin\tydi.exe
contextual menu	click with the right button of the mouse	if you have a single buttoned mouse: *ctrl + click*	click with the right button of the mouse
application saving directory (user preferences, ...)	~/.tydi/	/Users/$LOGNAME/Library/Application\ Support/tydi	%APPDATA%\.tydi

7 Appendix

7.1 Term text import file format

The text file import process recognizes the column headers detailed in the table below.

Column header	Description	Note
ID	External term identifier	Not imported
PREVALIDATION	Prevalidation string	Free text
VALIDATION-*username*	Validation status (One column per user)	Imported only if there is a matching username in the term database. The default validation statuses are recognized: “D”, “D?”, “?”, “V?” and “V”. A special sixth value “VC” can be used to tag the term as “Concept” (see 4.1), without setting any validation status.
COMMENTARY-*username*	Validation justification comment (one column per user)	
#OCC	Number of occurrences of the surface form	
#DOC	Number of distinct documents in which the surface form is found	
SURFACE FORM	The surface form of the term	Mandatory, unless a lemma is specified (the lemma will then be used as a surface form).
LEMMA	Lemma of the term	
POS	Part of speech tag	
HEAD LEMMA	Lemma of the head	
HEAD++ SURFACE FORM	Surface form of the head	
MODIFIER SURFACE FORM	Surface form of the expansion	
MODIFIER LEMMA	Lemma of the expansion	

7.2 Term candidate feature list

The table below lists all the features that can be associated to a term candidate.

The surface form is the only mandatory feature. The available feature depends on the import type (YaTeA XML file or Tab-Separated Value file)

Feature	Description	Yatea	Tab
Form	Surface form of the term candidate, as it is found in the corpus	✓	✓
Lemma	Lemma form of the candidate	✓	✓
Syntactic category	Part of speech tag (POS tag)	✓	✓
Head	Head form	✓	✓
Expansion	Expansion form	✓	✓
Prevalidation	Prevalidation string	✗	✓
Analysis	Recursive decomposition of the term candidate in head expansion elements	✓	✗
is Inferred	True, if the term is not found in the corpus alone in a maximal noun phrase (MNP), but has been retained for the syntactic analysis of larger term	✓	✗
is Dismissed	True, if the term is detected by the extractor, but has been filtered out (optional post-YaTeA processing)	✓	✗
is Superseded	True, if the term is detected by the extractor, but has been regrouped with others under a merged representative (optional post-YaTeA processing)	✓	✗
Nb of occurrences	Number of occurrences of the form within the corpus	✓	✓
Justification	Validation comment	✗	✓
Validation	Validation status	✗	✓
Word count	Number of words in the form.	-	-
Number of documents	Number of distinct documents where the candidate is found	-	✗
Producer	Processing or user who created the term	-	-
is Canonical	true if the term has been chosen has canonical representative of a semantic class	-	-

✓: feature imported from input file,

✗ : feature not available,

- : feature not imported, but computed or set by the user within TyDI

7.3 References

YaTea	S. Aubin and T. Hamon. Improving Term Extraction with Terminological Resources. In *Advances in Natural Language Processing (5th International Conference on NLP, FinTAL 2006).*	http://www-lipn.univ-paris13.fr/~aubin/yatea_en.html http://search.cpan.org/~thhamon/Lingua-YaTeA-0.5/
TreeTagger		http://www.ims.uni-stuttgart.de/projekte/corplex/TreeTagger/
FastR	Jacquemin, C. A Symbolic and Surgical Acquisition of terms Through Variation. In *Connectionist, Statistical and Symbolic Approaches to Learning for NLP*, Wermter, S., Riloff, E. & Scheler, G. (eds), pp. 425-438, Springer-Verlag, 1996.	http://www.limsi.fr/Individu/jacquemi/FASTR/
OBO Edit	Day-Richter J, Harris MA, Haendel M; Gene Ontology OBO-Edit Working Group, Lewis S. OBO-Edit--an ontology editor for biologists. *Bioinformatics*. 2007 Aug 15;23(16):2198-200. Epub 2007 Jun 1.	http://oboedit.org/